

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 09/993,292C
Source: IFW16
Date Processed by STIC: 7/15/05

ENTERED



I FW16

RAW SEQUENCE LISTING DATE: 07/15/2005
 PATENT APPLICATION: US/09/993,292C TIME: 10:04:59

Input Set : A:\09-993,292 Sequence Listing.txt
 Output Set: N:\CRF4\07152005\I993292C.raw

3 <110> APPLICANT: University of Maryland, Baltimore
 4 GALEN, James E.
 6 <120> TITLE OF INVENTION: USE OF CLYA HEMOLYSIN FOR EXCRETION OF PROTEINS
 8 <130> FILE REFERENCE: A8461
 10 <140> CURRENT APPLICATION NUMBER: 09/993,292C
 11 <141> CURRENT FILING DATE: 2001-11-23
 13 <150> PRIOR APPLICATION NUMBER: US 60/252,516
 14 <151> PRIOR FILING DATE: 2000-11-22
 16 <160> NUMBER OF SEQ ID NOS: 25
 18 <170> SOFTWARE: PatentIn version 3.3
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 6271
 22 <212> TYPE: DNA
 23 <213> ORGANISM: Artificial Sequence
 25 <220> FEATURE:
 26 <223> OTHER INFORMATION: pSEC84 Expression Plasmid
 28 <400> SEQUENCE: 1
 29 gaattctgtg gtacacaga ataatgaaaa gtgttaaag aaggtaaaa aaaaccgaat 60
 31 gcgaggcata cggttggaaat agggtaaac agacattcag aatgaatga cggtataaaa 120
 33 taaagttaat gatgatacg gtagttattc tagttgcag tgaaggttt gtttgacat 180
 35 tcagtctgt caaatactta agaataagt attgattta accttgaatt attattgctt 240
 37 gatgttaggt gcttatttcg ccattccgca ataatcttaa aaagttccct tgcatttaca 300
 39 tttgaaaca tctatacgta taaatgaaac atcttaaaag ttttagtacat atattcgtgt 360
 41 tggattattc tgcattttt gggagaatgg acttgcgcac tgattatga gggtaatca 420
 43 gatgcagtgcataaaaaa gcaataaaag gcatataaca gatcgatctt aaacatccac 480
 45 aggaggatgg gatccaaaat aaggaggaaa aaaaaatgac tagtattttt gcagaacaaa 540
 47 ctgtagaggt agttaaaagc gcgatcgaaa ccgcagatgg ggcattagat ctttataaca 600
 49 aataacctga ccaggtcatc ccctggaaaga cctttagtga aaccataaaa gagttagcc 660
 51 gttttaaaca ggagtactcg caggaagctt ctgttttagt tggtgatatt aaagtttgc 720
 53 ttatggacag ccaggacaag tattttgaag cgacacaaac tggatggatgg 780
 55 tcgtgacgca attactctca gcttatattt tactatttga tgaatataat gagaaaaaaag 840
 57 catcagccca gaaagacatt ctcatttaga tattagatga tggtgcaag aaactgaatg 900
 59 aagcgaaaa atctctctg acaagttcac aaagttcaa caacgcctcc gggaaactgc 960
 61 tggcattaga tagccatgtt actaatgatt tttcgaaaa aagttagttt ttccagtac 1020
 63 aggtggatag aattcgtaag gaagctttagt ccgggtgtgc agccggcata gtcggcggc 1080
 65 cgtttggatt aattatttcc tattctattt ctgcggcggt gattgaaggg aaattgattc 1140
 67 cagaattgaa taacaggcta aaaacagtgc aaaatttctt tactagctta tcagctacag 1200
 69 tgaaacaagc gaataaaagat atcgatgcgg caaaattgaa attagccact gaaatagcag 1260
 71 caattgggaa gataaaaacg gaaaccgaaa caaccagatt ctacgttgc tatgtatgatt 1320
 73 taatgcttcc tttattaaaa ggagctgcaa agaaaatgat taacacctgt aatgaatacc 1380
 75 aacaacgtca tggtaagaag acgctttcg aggttctga cgtcgctagc tgataaccta 1440
 77 gggccagcaa aaggccagga accgtaaaaa ggccgcgttgc tggcgtttt tccataggct 1500
 79 cccccccccct gacgagcatc acaaaaaatcg acgctcaagt cagaggtggc gaaacccgac 1560

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/993,292C

DATE: 07/15/2005

TIME: 10:04:59

Input Set : A:\09-993,292 Sequence Listing.txt

Output Set: N:\CRF4\07152005\I993292C.raw

81	aggactataa	agataccagg	cgtttccccc	tggaagctcc	ctcggtcgct	ctccgtttcc	1620
83	gaccctgccg	cttaccggat	acctgtccgc	ctttctccct	tcgggaagcg	tggcgctttc	1680
85	tcatagctca	cgctgttaggt	atctcagttc	ggtgttaggtc	ttcgctccca	agctgggctg	1740
87	tgtgcacgaa	ccccccgttc	agccccgaccg	ctgcgcctta	tcccgtaact	atcgctttga	1800
89	gtccaacccg	gtaagacacg	acttatacgcc	actggcagca	gccactggta	acaggattag	1860
91	cagagcggagg	tatgttaggct	gtgctacaga	gttcttgaag	tggtggccct	actacggcta	1920
93	cactagaagg	acagtatttg	gtatctgcgc	tctgctgaag	ccagttacct	tcggaaaaaag	1980
95	agttggtagc	tcttgatccg	gcaaacaac	caccgctgg	agcggtggtt	ttttgtttt	2040
97	caagcagcag	attacgcgc	aaaaaaaagg	atctcaagaa	gatcctttga	tctttctac	2100
99	ggggcttgac	gctcagtaga	tctaaaacac	taggccaag	agtttgtaga	aacgcaaaaa	2160
101	ggccatccgt	caggatggcc	ttctgcttaa	tttgatgcct	ggcagtttat	ggccggcg	2220
103	ctgcccggca	ccctccgggc	cgttgcttc	caacgttcaa	atccgctccc	ggccggatttg	2280
105	tcctactca	gagagcgttc	accgacaaac	aacagataaa	acgaaaggcc	cagtcttcg	2340
107	actgagcctt	tcgtttattt	tgatgcctgg	cagttcccta	ctctcgcatg	gggagacccc	2400
109	acactaccat	cggcgctacg	gcgttca	tctgagttcg	gcatggg	aggtgggacc	2460
111	accgcgtac	tgccggcagg	caaattctgt	tttattcagac	cgcttctgc	ttctgattt	2520
113	atctgtatca	ggctgaaaat	cttctctcat	ccgccaac	agccaagctg	gatctggcaa	2580
115	atcgctgaat	attccctttt	tctccgacca	tcaggcacct	gagtcgt	cttttcgt	2640
117	acattcagtt	cgctgcgtc	acggctctgg	cagtaatgg	gggtaaatgg	cactacaggc	2700
119	gcctttatag	gattcatgca	aggaaactac	ccataataca	agaaaagccc	gtcacggct	2760
121	tctcagggcg	ttttatggcg	ggtctgtat	gtgggtctat	ctgactttt	gcttgc	2820
123	agttcctgcc	ctctgatttt	ccagtcgtac	cacttcggat	tatcccgt	cagtcattc	2880
125	agactggcta	atgcacccag	taaggcagcg	gtatcatcaa	caggcttacc	cgtcttactg	2940
127	tcaaccggat	ctaaaacact	agcccaac	ttcatagaag	gcccgg	aatcgaaatc	3000
129	tcgtgtatggc	aggtggcg	tcgcttggc	ggtcatttc	aaccccagag	tcccgctc	3060
131	aagaactcgt	caagaaggcg	atagaaggcg	atgcgt	aatcggg	ggcgataccg	3120
133	taaagcacga	ggaagcggtc	agcccattcg	ccgccaagct	tttcagcaat	atcacggta	3180
135	gccaacgcta	tgtcctgata	gcccgtccccc	acacc	ggccacagtc	gatgaatcca	3240
137	aaaaagcgcc	catttccac	catgatattc	ggcaagcagg	catcgccat	ggtcacgac	3300
139	agatcctcg	cgtcggcat	gcccgtt	agcctggc	acagttc	tggcgcg	3360
141	ccctgatgc	ttcgtccag	atcatcctg	tcgacaagac	cggcttccat	ccgagtac	3420
143	gtcgctcg	tgcgtat	cgcttgg	tcgaatggc	aggtagcc	atcaagcg	3480
145	tgcagccgc	gcattgc	agccatgt	gatacttct	cggcagg	aagtgagat	3540
147	gacaggagat	cctccccgg	cacttcgccc	aatagcagcc	agtcccttcc	cgcttc	3600
149	acaacgtcg	gcacagctgc	gcaaggaa	cccgtgt	ccagccac	tagccgc	3660
151	gcctgtct	gcagttcatt	cagggcacc	gacaggt	tcttgc	aaaaa	3720
153	cggccctgc	ctgacagcc	gaacacggc	gcatcag	agccgattt	ctgttgc	3780
155	cagtcatgc	cgaatagcct	ctccacccaa	gcccgg	aacctgc	caatccat	3840
157	tgttcaatca	tgcgaaac	tcctcatt	gtcttgc	cagatctg	tccctgc	3900
159	catcagatcc	ttggccgca	gaaagccatc	cagttactt	tgcagg	ccaaac	3960
161	ccagagggcg	ccccagctgg	caattccgt	tcgt	acaacat	caaggagaaa	4020
163	ggggcttac	gcgaacc	agcccc	taaaggcg	tcagt	gaccag	4080
165	atcctgaaa	aggcggcc	gcggcc	ccagttgt	acttacc	ttcgtaa	4140
167	atgaaagccg	ccacccct	gtgtccgt	ctgt	acac	cgat	4200
169	gtcagataag	tgaatata	cagtgt	acac	acacac	gacaagg	4260
171	cttcgtggta	gttcatggc	ttcttctcc	ttgc	cgccgt	ggctat	4320
173	atgtggacta	gacatagg	tgccctgt	tgg	taat	actacgg	4380
175	tatcttctt	ctgacacaca	acacgg	aaacc	cacgt	ggcagaa	4440
177	ctcaagcgcc	gggcacatca	tagccat	acctgc	ac	cacttcc	4500

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/993,292C

DATE: 07/15/2005

TIME: 10:04:59

Input Set : A:\09-993,292 Sequence Listing.txt

Output Set: N:\CRF4\07152005\I993292C.raw

179	gaaaataatc	cgctcattca	gaccgttac	ggaaatccg	tgtgattgtt	gccgcata	cac	4560	
181	gctgcctccc	ggagttgtc	tcgagcac	ttgttacccg	ccaaacaaaa	cccaaaaaca		4620	
183	accat	accatacc	aaccaataa	aacacaaaaa	caagacaat	aatcattgat	tgatggttga	4680	
185	aatggggtaa	acttgacaaa	caaaccact	taaaacccaa	aacataccca	aacacacacc		4740	
187	aaaaaaacac	cataaggagt	tttataatg	ttggattca	ttgatgacgg	ttcaacaaac		4800	
189	atcaaactac	agtggcagga	aagcgacgga	acaattaaac	agcacat	ccgaacagc		4860	
191	ttcaaacgcg	agtggcagt	ctcttttgt	gataaaaagg	tctttaacta	cacactgaac		4920	
193	ggcgaacagt	attcattga	tccaaatcagc	ccggatgctg	tagtcaca	caatatcgca		4980	
195	tggcaataca	g	gcgacgttaa	tgtcgttgca	gtgcata	cactgac	cagtggctg	5040	
197	ccggtaagcg	aagtggat	atgtggat	ttttgcaca	cttcctctga	cagagtatta	cgacagaaat	5100	
199	aaccaaccca	atacgaaaaa	tattgagcgt	aagaaagcaa	acttccggaa	aaaaattaca		5160	
201	ttaaatggcg	gggatacatt	cacaataaaa	gatgtaaaag	tcatgcctga	atctataccg		5220	
203	gcaggttat	g	agttctaca	agaactggat	gagttagatt	ctttat	tatagatctc	5280	
205	gggggcacca	cattagat	ttctcaggta	atggggaaat	tatcggggat	cataaaata		5340	
207	tacggagact	catcttgg	tgtctctcg	gttacatctg	cagtaaaaga	tgccttct		5400	
209	cttgcgagaa	caaaaggaag	tagctatctt	gctgacgata	taatcatca	cagaaaagat		5460	
211	aataactatc	tgaagcaac	aattaatgtat	gagaacaaaa	tatcaatagt	caccgaagca		5520	
213	atgaatgaag	cacttcgtaa	acttgagcaa	cgtgtattaa	atacgctaa	tgaat	tttct	5580	
215	ggttatactc	atgttatgtt	tataggcgt	ggcgcagaat	taatatgcga	tgcagtaaaa		5640	
217	aaacacacac	agattcgtga	tgaacgtttt	ttcaaaacca	ataactctca	atatgattta		5700	
219	gttaacggt	tgat	atctcat	aggtat	ttgatggacaa	g	gcgcagaacc	attgccttca	5760
221	aactaaatcc	agatgtaaat	caaacagata	aaattgtttg	tgatacactg	gacagtatcc		5820	
223	cgcaagggga	acgaagccgc	cttaaccggg	ccgca	ctgac	ggcagg	gtct	gccttata	5880
225	gacaagatcc	ccggacccct	ttccttttat	gtgagctgct	gacgaaagaa	accacat	ttt		5940
227	cagatatcg	gaatatattg	agatcgctat	ttccaaaaga	gatggccat	tttatttct		6000	
229	caatagt	cac	tcaatcct	tcacaacaag	agcaaaaaag	tgatgaagag	accaaaaaaa		6060
231	atgcgatgaa	gctaataat	taattcaatt	attattgagt	tccctt	tatc	cactatcagg		6120
233	ctggataaaag	ggaactcaat	caagttattt	tcttaccagt	cattacataa	tcgttattat		6180	
235	gaaataatcg	tttgcactgt	ctctgttatt	caggcaattt	caataaaggc	acttgctcac		6240	
237	gtctgtcat	tttctgaaac	tcttcatgt	g				6271	

240 <210> SEQ ID NO: 2

241 <211> LENGTH: 305

242 <212> TYPE: PRT

243 <213> ORGANISM: *Salmonella typhi*

245 <400> SEQUENCE: 2

247	Met	Thr	Ser	Ile	Phe	Ala	Glu	Gln	Thr	Val	Glu	Val	Val	Lys	Ser	Ala
248	1				5				10					15		
251	Ile	Glu	Thr	Ala	Asp	Gly	Ala	Leu	Asp	Leu	Tyr	Asn	Lys	Tyr	Leu	Asp
252					20				25					30		
255	Gln	Val	Ile	Pro	Trp	Lys	Thr	Phe	Asp	Glu	Thr	Ile	Lys	Glu	Leu	Ser
256					35				40					45		
259	Arg	Phe	Lys	Gln	Glu	Tyr	Ser	Gln	Glu	Ala	Ser	Val	Leu	Val	Gly	Asp
260					50				55					60		
263	Ile	Lys	Val	Leu	Leu	Met	Asp	Ser	Gln	Asp	Lys	Tyr	Phe	Glu	Ala	Thr
264					65				70			75		80		
267	Gln	Thr	Val	Tyr	Glu	Trp	Cys	Gly	Val	Val	Thr	Gln	Leu	Leu	Ser	Ala
268									85			90		95		
271	Tyr	Ile	Leu	Leu	Phe	Asp	Glu	Tyr	Asn	Glu	Lys	Lys	Ala	Ser	Ala	Gln
272									100			105		110		

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/993,292C

DATE: 07/15/2005

TIME: 10:04:59

Input Set : A:\09-993,292 Sequence Listing.txt.

Output Set: N:\CRF4\07152005\I993292C.raw

275 Lys Asp Ile Leu Ile Arg Ile Leu Asp Asp Gly Val Lys Lys Leu Asn
 276 115 120 125
 279 Glu Ala Gln Lys Ser Leu Leu Thr Ser Ser Gln Ser Phe Asn Asn Ala
 280 130 135 140
 283 Ser Gly Lys Leu Leu Ala Leu Asp Ser Gln Leu Thr Asn Asp Phe Ser
 284 145 150 155 160
 287 Glu Lys Ser Ser Tyr Phe Gln Ser Gln Val Asp Arg Ile Arg Lys Glu
 288 165 170 175
 291 Ala Tyr Ala Gly Ala Ala Gly Ile Val Ala Gly Pro Phe Gly Leu
 292 180 185 190
 295 Ile Ile Ser Tyr Ser Ile Ala Ala Gly Val Ile Glu Gly Lys Leu Ile
 296 195 200 205
 299 Pro Glu Leu Asn Asn Arg Leu Lys Thr Val Gln Asn Phe Phe Thr Ser
 300 210 215 220
 303 Leu Ser Ala Thr Val Lys Gln Ala Asn Lys Asp Ile Asp Ala Ala Lys
 304 225 230 235 240
 307 Leu Lys Leu Ala Thr Glu Ile Ala Ala Ile Gly Glu Ile Lys Thr Glu
 308 245 250 255
 311 Thr Glu Thr Thr Arg Phe Tyr Val Asp Tyr Asp Asp Leu Met Leu Ser
 312 260 265 270
 315 Leu Leu Lys Gly Ala Ala Lys Lys Met Ile Asn Thr Cys Asn Glu Tyr
 316 275 280 285
 319 Gln Gln Arg His Gly Lys Lys Thr Leu Phe Glu Val Pro Asp Val Ala
 320 290 295 300
 323 Ser
 324 305
 327 <210> SEQ ID NO: 3
 328 <211> LENGTH: 102
 329 <212> TYPE: DNA
 330 <213> ORGANISM: Artificial Sequence
 332 <220> FEATURE:
 333 <223> OTHER INFORMATION: Cloning Primer
 335 <400> SEQUENCE: 3
 336 ggatccaaaa taaggaggaa aaaaaatga ctagtattt tgcagaacaa actgttagagg 60
 338 tagttaaaag cgcgatcgaa accgcagatg gggcattaga tc 102
 341 <210> SEQ ID NO: 4
 342 <211> LENGTH: 101
 343 <212> TYPE: DNA
 344 <213> ORGANISM: Artificial Sequence
 346 <220> FEATURE:
 347 <223> OTHER INFORMATION: Cloning Primer
 349 <400> SEQUENCE: 4
 350 cctaggttat cagctacgca cgtcaggaac ctcgaaaagc gtcttcttac catgacgttg 60
 352 ttggtattca ttacaggtgt taatcatttt ctttgcagct c 101
 355 <210> SEQ ID NO: 5
 356 <211> LENGTH: 97
 357 <212> TYPE: DNA
 358 <213> ORGANISM: Artificial Sequence
 360 <220> FEATURE:

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/993,292C

DATE: 07/15/2005

TIME: 10:04:59

Input Set : A:\09-993,292 Sequence Listing.txt

Output Set: N:\CRF4\07152005\I993292C.raw

361 <223> OTHER INFORMATION: Cloning Primer
 363 <400> SEQUENCE: 5
 364 cacggtaaga agacgcttt cgaggttct gacgtcgcta gctgataacc taggtcatgt 60
 366 tagacagctt atcatcgata agctttaatg cggtatg 97
 369 <210> SEQ ID NO: 6
 370 <211> LENGTH: 69
 371 <212> TYPE: DNA
 372 <213> ORGANISM: Artificial Sequence
 374 <220> FEATURE:
 375 <223> OTHER INFORMATION: Cloning Primer
 377 <400> SEQUENCE: 6
 378 agatctacta gtgtcgacgc tagctatcag gtcgaggtgg cccggctcca tgcaccgcga 60
 380 cgcAACGCG 69
 383 <210> SEQ ID NO: 7
 384 <211> LENGTH: 60
 385 <212> TYPE: DNA
 386 <213> ORGANISM: Artificial Sequence
 388 <220> FEATURE:
 389 <223> OTHER INFORMATION: Cloning Primer
 391 <400> SEQUENCE: 7
 392 actagtaccc cagaaacgct ggtgaaagta aaagatgctg aagatcagtt gggtgacacga 60
 395 <210> SEQ ID NO: 8
 396 <211> LENGTH: 101
 397 <212> TYPE: DNA
 398 <213> ORGANISM: Artificial Sequence
 400 <220> FEATURE:
 401 <223> OTHER INFORMATION: Cloning Primer
 403 <400> SEQUENCE: 8
 404 cattaaaggat tatcgatgat aagctgtcaa acatgagctt gccttaggtca ttaccaatgc 60
 406 ttaatcagtg aggcacctat ctcagcgatc tgtctatttc g 101
 409 <210> SEQ ID NO: 9
 410 <211> LENGTH: 101
 411 <212> TYPE: DNA
 412 <213> ORGANISM: Artificial Sequence
 414 <220> FEATURE:
 415 <223> OTHER INFORMATION: Cloning Primer
 417 <400> SEQUENCE: 9
 418 cggaaatagac agatcgctga gataggtgcc tcactgatta agcattggta atgacctagg 60
 420 ctagctcatg tttgacagct tatcatcgat aacctttaat g 101
 423 <210> SEQ ID NO: 10
 424 <211> LENGTH: 71
 425 <212> TYPE: DNA
 426 <213> ORGANISM: Artificial Sequence
 428 <220> FEATURE:
 429 <223> OTHER INFORMATION: Cloning Primer
 431 <400> SEQUENCE: 10
 432 ggcgactagt aaagaaacga accaaaagcc atataaggaa acatacgca tttccatat 60
 434 tacacgccccat g 71
 437 <210> SEQ ID NO: 11

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/993,292C

DATE: 07/15/2005

TIME: 10:05:00

Input Set : A:\09-993,292 Sequence Listing.txt
Output Set: N:\CRF4\07152005\I993292C.raw